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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/446,581 | 08/27/2001 | Pedro J. Alvarez | IOW:020---/P | 2583 |

7590 03/25/2003

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| EXAMINER |
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PRINCE, FRED G

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| ART UNIT | PAPER NUMBER |
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1724

DATE MAILED: 03/25/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

09/446,581

ALVAREZ ET AL.

Examiner

Art Unit

Fred Prince

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 34-37, 42-54 and 56-58 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☐ Claim(s) 35-37, 46-54 and 56-58 is/are allowed.

- 6) ☐ Claim(s) 1-18, 34 and 42-45 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)

- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____

- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____

- 5) ☐ Notice of Informal Patent Application (PTO-152)

- 6) ☐ Other:

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DETAILED ACTION

1. The indicated allowability of claims 9-12 is withdrawn in view of newly discovered reference(s) and reference C3 to Belay et al. Rejections based on the newly cited reference(s) follow.
2. Applicant's arguments with respect to claims 1-18, 34-37, and 42-45 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5-8, and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Belay et al. (reference C3 on IDS).

Belay et al., teach a device comprising zero-valent iron and an autotrophic, hydrogenotrophic bacteria, including *Methanosarcina barkeri* (page 2), an inlet port and outlet port in an "anaerobic digester" having a glass support (Fig. 3; page 3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 5-6, 9-12, 16-18, 34, and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt et al in view of Steffan.

Hunt et al. teach a device defined as a reactive barrier (20, 22) acting as a support comprising zero-valent iron and selected, suitable bacteria (abstract; col. 1, lines 64-67; col. 2, line 2; col. 3, lines 35-46). Hunt et al. do not disclose autotrophic, hydrogenotrophic bacteria for degrading expected contaminants or using the system within a water treatment system.

Steffan teaches providing autotrophic, hydrogenotrophic bacteria for degrading expected contaminants in an environmental site (col. 3, lines 1-2; col. 4, lines 1-10).

It would have been obvious for the skilled artisan to have modified the device of Hunt et al. by providing autotrophic, hydrogenotrophic bacteria for degrading expected contaminants in an environmental site, as suggested by Steffan.

Per claim 10, it is submitted that it is well within the purview of the skilled artisan to place the device within one of the recited sites in order to treat contaminants in the site. Accordingly, it would have been obvious for the skilled artisan to have modified the device of Hunt et al., as modified by Steffan, such that it is located within one of the recited sites in order to treat contaminants in the site.

Per claim 17, Steffan discloses that the bacteria are suitable for use within water treatment system in order to initiate a degradation process (col. 3, lines 9-10).

It would have been obvious for the skilled artisan to have modified the device of Hunt et al. by placing it within a water treatment system in order to initiate a degradation process, as suggested by Steffan.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belay et al. in view of Semp et al.

Belay et al. is described above. Belay et al. do not disclose using one of the recited bacteria.

Semp et al. disclose using one of the recited bacteria in order to remove undesirable matter from the water (col. 4, lines 60-68).

It would have been obvious for the skilled artisan to have modified the device of Belay et al. by using one of the recited bacteria in order to remove undesirable matter from the water, as suggested by Belay et al.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References are cited of interest to show the state of the art.

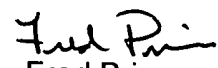
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Prince whose telephone number is (703) 306-9169. The examiner can normally be reached on Monday-Thursday, 6:30-4:00; alt. Fridays 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (703) 308-3792. The fax phone numbers

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for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Fred Prince
Primary Examiner
Art Unit 1724
March 12, 2003